# uBooNE Offline

| | 2021-3 | | | | | 2021-4 | | | | 2021-5 | | | | 2021-6 | | | | 2021-7 | | | | 2021-8 | | | |
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| | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| **uBooNE Offline** | uBooNE Offline | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Cosmogenics** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **List of configurations** | Assigned | | | | | | | | | | | | | | | | | | | | | | | | | |
| **List of analysis** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Top OB vs Top+Side OB** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **MC samples** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **uBooNE Detector Physics** | uBooNE Detector Physics | | | | | | | | | | | | | | | | | | | | | | | | | |
| **uBooNE Detector Physics - Cosmic Rate  (...)** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Identify through-going cosmics** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Identify stopping cosmics** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Populate DQM database** | Assigned | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Cosmic rate paper** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Production TPC pedestal determination** | Assigned 80% | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Production PMT pedestal and gain  (...)** | Assigned | | | | | | | | | | | | | | | | | | | | | | | | | |
| **uBooNE Detector Physics - Diffusion  (...)** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Diffusion paper** | Assigned | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Technote: Diffusion Measurement** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Apply lifetime correction to hits** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Look at hit width as a function  (...)** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Apply space charge correction if  (...)** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **uBooNE Detector Physics - Michel Electron  (...)** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Apply recombination correction  (...)** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Apply lifetime corrections to hits** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Use ADC to charge conversion** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Create TPC reconstruction algorithm** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **uBooNE Detector Physics - Purity Measurement** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Technote: Purity from TPC data** | New | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Purity Paper** | New | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **Special Laser and Cosmic Runs at (...)** | **New** |
| **Analyzing Special Laser and Cosmic (...)** | **New** |
| **Validating MC analysis technique (...)** | **New** |
| **T0 Extraction** | **Assigned** |
| **Understand the double-exponential (...)** | **New** |
| **uBooNE Detector Physics - Recombination (...)** | |
| **Measure the ADC to charge conversion** | **New** |
| **Get ADC to charge conversion (...)** | **New** |
| **Get ADC to charge conversion (...)** | **New** |
| **Identify stopping muons** | **New** |
| **Hypothesize the Bragg peak and (...)** | **New** |
| **Look at data from different fields** | **New** |
| **uBooNE Detector Physics - Space Charge (...)** | |
| **Calibration framework in LArSoft** | **Assigned** |
| **Testing of laser-only calibration (...)** | **Assigned** |
| **Laser+Cosmics calibration methods** | **New** |
| **Technotes: Space Charge Measurement** | **Resolved** |
| **Space Charge Measurement Paper** | **Assigned** |
| **Setting laser paths in TPC** | **Assigned 50%** |
| **create operational configuration (...)** | **Assigned** |
| **Laser track reco** | **Assigned** |
| **Reconstruction of laser tracks** | **Assigned** |
| **uBooNE Production** | **uBooNE Production** |
| **Set IncludeMisconfiguredU to true** | **Resolved** |
| **ana trees for in time sample** | **Feedback** |
| **MCC7 in time CORSIKA samples** | **New** |
| **uBooNE Production - MCC8** | |
| **Update Lifetime** | **Resolved** |
| **Overlay reco needs correct digit (...)** | **Feedback 80%** |
| **single e and photon samples for (...)** | **Accepted** |
| **uBooNE Reconstruction** | **uBooNE Reconstruction** |
| **March production reconstruction** | **Resolved 93%** |
| **Integrate Pandora into shower-finding (...)** | **Work in progress 80%** |
| **Port LArLite shower-finding code (...)** | **Assigned** |

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| Production shower finding | New 40% |
| Improve reconstruction speed by 2x | Accepted |
| Parent reconstruction milestones/tasks  (...) | New 30% |
| MCC8 and "v6" reconstruction development | New 31% |
| Alternate Reconstruction Paths | New 33% |
| Integration of Cluster3D  (...) | Work in progress 50% |
| Integration of wire-cell  (...) | New |
| Integration of linecluster/trajcluster  (...) | New 50% |
| Cosmic Ray tagging for use  (...) | New |
| Cosmic Ray Tagger reconstruction | New |
| Reconstruction workflow | New |
| Final Object Selection | New |
| Common metrics for evaluation  (...) | Assigned |
| Reconstruction Tuning | New |
| Reconstruction validation | New |
| Understand existing optical reconstruction  (...) | New |
| Port LArLite based flash matching  (...) | New |
| LArLite/LArSoft merge of shower  (...) | New |
| Track vs. shower classification | New 60% |
| Shower merging and characterisation | New |
| Particle (esp. shower) merging | New 80% |
| Creation and refinement of vertex  (...) | New 60% |
| Scoring of vertex candidates | New 90% |
| Missing tracks (fully-enclosed  (...) | New 60% |
| Improved 3D SpacePoints | New 10% |
| Interface to new Track Fitter | New |
| Remove external shower-reconstruction  (...) | Assigned |
| Overlapping track removal | Assigned |
| sample identification [through  (...) | Resolved |
| sample re-processing with gaussian  (...) | Resolved |
| sample re-processing with updated  (...) | New |
| shower 3D start point reconstruction | New |
| lifetime correction | Resolved |
| recombination correction | New 30% |

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| **dead-wire region impact on energy** | **New 20%** |
| **charge clustering impact on energy  (...)** | **New** |
| **containment of charge in TPC :  (...)** | **New** |
| **neutrino vertex resolution measurement  (...)** | **New 50%** |
| **shower dE/dx reconstruction** | **New** |
| **detector energy calibration** | **New** |
| **data-driven 3D direction & energy  (...)** | **New 80%** |
| **Pi0 Clustering** | **New** |
| **Optimize existing hit finder parameters** | **New** |
| **MC gain estimation and validation** | **New** |
| **DATA gain validation** | **New** |
| **Optical Reconstruction** | **New** |
| **Shower Reconstruction** | **New 39%** |
| **Shower Reconstruction - Pandora  (...)** | **New 47%** |
| **Vertex Reconstruction** | **New 75%** |
| **Vertex Reconstruction - Pandora  (...)** | **New 75%** |
| **Track Reconstruction** | **New 23%** |
| **Track Reconstruction - Pandora  (...)** | **New 35%** |
| **Shower Reconstruction - OpenCV  (...)** | **New** |
| **Pi0 data sample reconstruction** | **Assigned 39%** |
| **Energy reconstruction** | **New 36%** |
| **3D shower direction reconstruction** | **New 50%** |
| **Pi0 Mass Peak reconstruction** | **New 40%** |
| **Hit Finding** | **New** |
| **electronics gain calculation** | **New** |
| **uBooNE Utilities** | |
| **Add ability to fetch and store log files  (...)** | **New** |
| **Modify metadata extractor to handle  (...)** | **New** |